

**DEPARTMENT OF TRANSPORTATION****DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
690 Walnut Ave.St. 150  
Vallejo, CA 94592-1133  
(707) 649-5453  
(707) 649-5493

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-023730**Date Inspected:** 15-May-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 1900**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 700**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** See below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG**Summary of Items Observed:**

CWI Inspector: Mr. Sha Zhi

On this date CALTRANS OSM Quality Assurance (QA) Inspector, Mr. Paul Dawson, arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai China, for the purpose of monitoring welding and fabrication of the San Francisco / Oakland Bay Bridge (SFOBB) components. This QA Inspector observed the following:

**OBG Trial Assembly**

ABF issued ultrasonic inspection report number UT-13W-035R1 stating that OBG segment 13AW "architectural housing" weld AH3001-003, joining side plate to side plate weld #18 had been ultrasonically (UT) inspected and accepted using scanning patterns A, B, C, D and E. This QA Inspector performed random visual and ultrasonic inspections of this weld from "Y" location approximately 100 mm to 5200 mm using scanning patterns A, B, C, D and E and items observed by this QA Inspector appear to comply with AWS D1.5 UT requirements. Note: the first 100 mm of this weld has not been ultrasonically inspected by ABF personnel and this portion of the weld will be UT'd once the adjacent side plates are welded in place. Other QA personnel performed UT inspections of the remaining portions of this weld. For additional information on these inspections see this QA Inspector's TL6027 Ultrasonic Test Report and the photograph below.

This QA Inspector observed ZPMC welder Mr. Li Jian stencil 067829 used shielded metal arc welding procedure

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specification WPS-345-SMAW-2G(2F)-FCM-Repair-1 to make segment 13AW welds KP3017-001-002 and 004. This QA Inspector observed a welding current of approximately 180 amps, the base material had been preheated with electric heaters and Mr. Li Jian appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Liu Ya, stencil 067520 used shielded metal arc welding procedure specification WPS-345-SMAW-2G(2F)-FCM-Repair-1 to make segment 13AW welds KP3017-001-002 and 004. This QA Inspector observed a welding current of approximately 175 amps, the base material had been preheated with electric heaters and Mr. Liu Ya appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Huang Hongpei, stencil 037705 used flux cored welding procedure WPS-B-T-2132-ESAB to make OBG segment 13AW welds SEG3013Y-393, 394, 389 and 390. This QA Inspector observed a welding current of approximately 280 amps, 25.0 volts, the base material had been preheated with a torch and Mr. Huang Hongpei appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Wu Cunnang, stencil 070101 used flux cored welding procedure specification WPS-B-T-2233-ESAB to make OBG segment 13AW weld SEG3013U-106. This QA Inspector observed a welding current of approximately 290 amps, 25.5 volts and Mr. Wu Cunnang appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Li Shoufu, stencil 066674 used shielded metal arc welding procedure WPS-B-P-2212-B-U2-FCM-1 to make OBG segment 13AW weld between plates RS3404D and EP3023A. ZPMC CWI Mr. Sha Zhi informed this QA Inspector that this weld number is not shown on the weld maps that are available to the night shift QC Inspectors and that this information will be available tomorrow. This QA Inspector observed a welding current of approximately 180 amps and Mr. Li Shoufu appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Liao Yanfei, stencil 066398 performed SMAW critical (CWR-2861) weld base metal repairs of segment 13AW/13BW deck plate temporary weld removal areas. This QA Inspector observed the base material where this welder was welding was at an ambient temperature. The worker that appears to have been assigned to perform preheating followed this QA Inspector up the stairway and immediately lit a rosebud torch and proceeded to heat the partially completed (cold) weld and adjacent area. One of the AFT Inspectors informed this QA Inspector that the last three temporary removal areas that had been welded were the part of the top deck splice weld joint that had NOT been MT inspected. He indicated that most of the deck plate had these areas marked as MT OK, but these areas had not yet been MT inspected. CWI Mr. Sha Zhi was informed and Mr. Sha Zhi wrote in Chinese that these welds are to be ground out and the areas are to be MT inspected prior to rewelding. See the photographs below for additional information.

### Summary of Conversations:

See Above.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or

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remedial efforts please contact James Devey +8615000026784, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Dawson,Paul	Quality Assurance Inspector
<b>Reviewed By:</b>	Riley,Ken	QA Reviewer

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